Ham-Homebrew Digest   Thu, 18 Nov 93   Volume 93 : Issue 106

Today's Topics:
                     Phase-lock to WWV ?
                  Power amplifier at 2.4gHz

We trust that readers are intelligent enough to realize that all text
herein consists of personal comments and does not represent the official
policies or positions of any party. Your mileage may vary. So there.

Date: Wed, 17 Nov 1993 23:10:42 GMT
From: galaxy.ucr.edu!library.ucla.edu!csulb.edu!csus.edu!netcom.com!netcom2!
faunt@network.ucsd.edu
Subject: Phase-lock to WWV ?
To: ham-homebrew@ucsd.edu

My wife's mother's husband, who runs the collection of "clocks" that
is the working US standard says that WWV gets their time by GPS
receiver these days.

His clocks at the NIST in Boulder are across the hall from the atomic
clock that is the primary standard, and run all the time. They are
calibrated by the atomic standard, when it runs, which is relatively
seldom.
73, doug

Date: Mon, 15 Nov 93 19:20:42 GMT
From: mnemosyne.cs.du.edu!nyx10!lkollar@uunet.uu.net
Subject: Power amplifier at 2.4gHz

To: ham-homebrew@ucsd.edu

zlau@arrl.org (Zack Lau) writes:

>For real power, people have modulated microwave ovens for ATV.

Ah, here's something I've been meaning to ask about!

I gutted my mother-in-law's nuke when it went bad -- I think the (tapped
inductor? autotransformer? a long round thing with three connections,
anyway :-) is the culprit. It looks a little burnt. The magnetron has
a Fujitsu label on it, and looks fine.

What kind of circuits are there that utilize oven magnetrons? I have the
ARRL UHF/uWave handbook, but there's precious little in there for liberating
consumer goods such as nukes and fuzzbusters.

Vowing to get a signal through my trees one way or another :-), I am --
--
Larry Kollar, KC4WZK | I like CW, but that doesn't mean I think every ham
lkollar@nyx.cs.du.edu | should have to learn it.
        "You mean you came back from the dead, to tell me I'm *odd*?"

Date: Thu, 18 Nov 1993 04:11:17 GMT
From: library.ucla.edu!agate!howland.reston.ans.net!usenet.ins.cwru.edu!nshore!
seastar!jjw@network.ucsd.edu
To: ham-homebrew@ucsd.edu

References <1993Nov14.020154.9354@ke4zv.atl.ga.us>,
<Nov15.155239.54713@yuma.ACNS.ColoState.EDU>, <2cbvcd$m8q@maxwell21.ee>
Reply-To : jjw@seastar.org (John Welch)
Subject : Re: single sideband, phasing and T2/R2

As quoted from <2cbvcd$m8q@maxwell21.ee> by decarlis@mtu.edu (Daniel E. Carlisle):
<stuff deleted>
> : In the April, 93 issue of QST is the 'Multimode Phasing Exciter' alias the
> : T2 board. Uses 1% componenets in the phase shift network. I have the board
> : (along with the companion R2) but I haven't built it, as I can't decide if
> : I should put it on 440 SSB or 1750m CW/SSB. You must also have a 90 deg.
> : phase shift for the RF, which I can get for 440 from Mini-Circuits.
>
> : Anybody built these boards and willing to talk?
>
> : Galen, KF0YJ
>

```
> Why buy a phase shifter for RF?
> ...just use a 1/4 wave piece of transmission line after the power divider...
>
```

 Unless you use Teflon coax, the variation in velocity factor
from foot to foot makes it difficult to get exactly 90 degrees by
calculating the length in inches.
 A 90 degree length of coax at 160M is rather long.
 A 90 degree chunk of coax is only 90 degrees at one very
narrow range of frequencies.
 Unless you have a *lot* of patience and time, it's far easier
to use a pre-built component that you already know works.
 A 90 degree chunk of coax induces some loss, and thus some
amplitude imbalance.

 I once seriously considered phasing using the Qualcom dual DDS
chip, setting the second DDS to be 90 degrees plus or minus from the
first, but differences in the DACs and filters induced too much
amplitude and phase shift for the sharp selectivity I wanted. I found
I could get what I wanted only if I also used a crystal filter too,
and at that point the expense of phasing became a drawback. I'd still
like to do it some day, though...
--
John Welch, N9JZW

Date: Tue, 16 Nov 1993 21:55:28 GMT
From: elroy.jpl.nasa.gov!swrinde!news.dell.com!natinst.com!cs.utexas.edu!wupost!
gumby!destroyer!fmsrl7!ef2007!ef0420!ef0424.efhd.ford.com!wmeahan@ames.arpa
To: ham-homebrew@ucsd.edu

References <1993Nov13.164257.15906@cs.rit.edu>, <2c4lhr$6pi@hpscit.sc.hp.com>,
<1993Nov15.164550.18931@cs.rit.edu>w
Subject : Re: single sideband

In article <1993Nov15.164550.18931@cs.rit.edu> atd@cs.rit.edu (Albert T Davis)
writes:
>From: atd@cs.rit.edu (Albert T Davis)
>Subject: Re: single sideband
>Date: Mon, 15 Nov 1993 16:45:50 GMT

>Richard Karlquist writes:
>>The phasing method of SSB is principally a ham radio technique.

>This is why they abandoned the phasing method back in the days of tubes.
>It was all true then. It was difficult to get even 20 db or so of
>carrier and alt sideband suppression.

True for systems that attempted to generate the SSB signal at the operating frequency, but not necessarily true otherwise. The Gonset GSB-100 that was my first voice transmitter generated the SSB signal via phasing at 9.00 MHz (easy enough to get good suppression at a single, FIXED frequency) and used a single crystal notch filter to further reduce any remaining carrier. Operation on the various bands then required mixing with an appropriate frequency just like the filter rigs.

As I recall, I always got comments on how good my voice quality was while still getting adequate suppression.

73 de WA8TZG
--
Bill Meahan |EFHD Information Systems Staff
Computer Applications Engineer |Ford Motor Company
wmeahan@ef0424.efhd.ford.com |I don't speak for Ford, just me
"Managing a software project is like herding cats"

End of Ham-Homebrew Digest V93 #106
****
****